# Chapter 3 ENVIRONMENTAL SETTING

The environmental setting for the proposed Master Plans includes all CIP project sites, predominantly within Carlsbad in the northern portion of San Diego County, California. Some water and recycled water CIP projects are located in other neighboring jurisdictions (within the cities of Oceanside, Vista, and San Marcos). The environmental setting is described in this chapter in terms of its general characteristics. The environmental setting for each issue area is discussed in more detail in Chapter 4 of this document.

## 3.1 Regional Setting

The Metropolitan Water District (MWD) of Southern California consists of 26 cities and water districts within southern California. The MWD's primary water resources are the Colorado River and the California State Water Project (primarily water from northern California). The MWD supplies raw and treated water to the San Diego County Water Authority (SDCWA), a local member agency. The SDCWA in turn then sells water to 24 water agencies within the San Diego Region, including CMWD.

## 3.2 Local Setting

**Sewer Service**

The City of Carlsbad provides sewer service to approximately 78 percent (30.45 square miles) of the 39.1 square miles comprising Carlsbad. Existing facilities include six interceptor pipelines with a total length of approximately 26 miles, approximately 280 miles of collection pipelines, 40 miles of sewer laterals, and 16 lift stations. Service to the southeast corner of the city is provided by the LWWD and the VWD provides service to the eastern edge of the city limits. Service to these areas of the city is planned for by the LWWD and the VWD in their master planning documents.

All wastewater flows from the Carlsbad sewer service area are conveyed to the EWPCF, located within Carlsbad, for treatment and then disposal through an ocean outfall or delivery to the adjacent CWRF for reuse as recycled water. The EWPCF is jointly-owned by six northern San Diego County agencies through a Joint Powers Agreement and operated by the Encina Wastewater Authority (EWA). The City of Carlsbad is a member agency, as well as the City of Vista, the City of Encinitas, VWD, Buena Sanitation District, and the LWWD.

**Water Service**

The CMWD service area is 20,682 acres (32.29 square miles) and covers nearly 83 percent of Carlsbad. CMWD is bounded by Oceanside and VID to the north, VWD to the east, and OMWD and San Dieguito Water District (SDWD) to the south. The southern portion of the city, outside of the CMWD boundary, is served by the OMWD and an eastern portion of the City is served by VWD.

CMWD is a member of the SDCWA and currently receives 100 percent of its potable water supply from the SDCWA through four connections. Water is delivered to customers through 450 miles of pipeline, 71 pressure regulating stations (PRSs), five pump stations, ten storage tanks and one earthen dam reservoir. The total operational storage for CMWD is 245.5 million gallons (MG), which includes the 195 MG Maerkle Reservoir.

**Recycled Water**

The Recycled Water Master Plan area is the service area of CMWD as well as a portion of the VWD service area located within the city. As discussed under the water service section, CMWD's service area covers most of the City's boundary. One CMWD recycled water pipeline is located within the VID to the east of CMWD's service area. Recycled water pipelines outside of CMWD's service area but within the VWD are supplied from the MWRF and Mahr Reservoir, which are owned and operated by VWD. Additionally, through an agreement dated September 24, 2008, CMWD sells recycled water to the VWD to provide recycled water to an area that is outside CMWD's service area but within the city. Currently, CMWD's existing recycled water system extends to all parts of the CMWD service area except an area comprising the northwestern quadrant of the service area.

Sewer treatment is handled on a regional basis by EWA. CMWD receives recycled water from reclamation plants within the EWA service area, including the MWRF, owned and operated by the VWD; the CWRF, owned by CMWD but operated by the EWA; and the Gafner Water Reclamation Plant (GWRP), owned and operated by the LWWD. CMWD supplies recycled water through two recycled water distribution systems. CMWD's primary recycled water distribution system consists of five pressure zones, three storage tanks, three booster pumping stations, two supply sources with pump stations, and three PRSs. CMWD also supplies recycled water to the south course of the La Costa Resort and Spa from the Gafner WRP through a separate distribution system with dedicated service to that area of the course. CMWD's recycled water distribution system includes approximately 77 miles of pipelines within its service area, ranging in size from 2 to 30 inches in diameter.

**Project Area Characteristics**

Carlsbad is a coastal jurisdiction bordered generally on the north by Oceanside and Vista, on the east by Vista and San Marcos, and on the south by Encinitas. Approximately 35 percent of Carlsbad is undeveloped, with the remainder area being developed with a variety of land uses (City of Carlsbad 2012). The primary land use is residential; other uses include local and regional commercial centers and several large industrial business parks. There is also a small public airport (McClellan-Palomar Airport) and visitor related facilities near the Legoland amusement park and the Four Seasons Resort. There is a large undeveloped area along the northeast boundary that is designated to remain as open space. The major roadway in the study area is Interstate 5 which runs north to south along the coastal corridor. Carlsbad's transportation system consists of roads that follow the natural topographic constraints of the area (e.g., steep hills, lagoons). Several of the existing major arterials also carry pass-through traffic as well as local traffic. Carlsbad contains three primary arterial roadways: El Camino Real, which runs north

and south through the center of the city; Palomar Airport Road, which runs east/west through the center of the city; and Rancho Santa Fe Road, which runs along the southern and easterly boundary of the city.

The areas of Oceanside and San Marcos within the proposed CMWD recycled water service area are characterized by suburban single family residential and commercial development. The area of Vista in the service area is characterized by industrial development surrounded by suburban residential neighborhoods. Small open spaces and vacant lots are interspersed throughout development in all three cities. Undeveloped hills separate concentrated development areas and provide larger areas of open space.

The sewer, water, and recycled water service areas are located in the San Diego Air Basin. The climate of the San Diego Air Basin is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. It also drives the dominant onshore circulation and helps create two types of temperature inversions, subsidence and radiation, that contribute to local air quality degradation.

In addition to urban/developed land, nine general vegetation community categories have been mapped within the sewer, water, and recycled water services areas. These include disturbed, agriculture, grassland, sage scrub, chaparral, woodland, riparian, marsh, and other wetland types. These vegetation communities host a variety of sensitive plant and animal species. The service areas fall within the boundaries of two regional conservation plans, the Multiple Habitat Conservation Program (MHCP) and the Carlsbad Habitat Management Plan, which is a sub regional plan of the MHCP. The MHCP is a large-scale, multi-jurisdictional plan with long-term conservation goals and objectives for protecting sensitive plant and wildlife species and their habitats through the establishment of large, interconnected preserve areas. This Carlsbad HMP is a comprehensive, citywide program to identify how Carlsbad, in cooperation with the USFWS, CDFG, and California Coastal Commission (CCC), will preserve the diversity of habitat and protect sensitive biological resources within the city while allowing for development consistent with the Carlsbad General Plan and its Growth Management Plan.

Historic-age resources exist within the sewer, water, and recycled water service areas, and some of these structures are listed in the National Register of Historic Places and California Register of Historic Resources. Numerous archaeological resources also exist throughout the sewer, water, and recycled water service areas and areas of high archaeological sensitivity are found near large water resources, including Buena Vista Lagoon, Agua Hedionda, and Batiquitos Lagoon.

The topography of the study area is very diverse, consisting of inland hills as well as coastal bluffs adjacent to the Pacific Ocean, inland terrain of valley, hill, and ridge formations ranging in elevation from sea level to 700 feet above mean sea level. Geologically, the sewer, water, and recycled water service areas are situated in the Peninsular Ranges Geomorphic Province. The province spans from the Transverse Ranges in the north to the southern tip of Baja California. The province varies in width from approximately 30 to 100 miles and is bounded by the Colorado Desert in the east.

Hydrologically, the study area is located within the San Diego Hydrologic Region, which drains west into the Pacific Ocean. The San Diego Hydrologic Region encompasses approximately 3,900 square miles and is further subdivided into eleven major watersheds. The CIP project components occur in the Carlsbad Watershed. The Carlsbad Watershed occupies approximately 210 square miles, extending from Lake

Wohlford on the east to the Pacific Ocean on the west and from Vista on the north to Cardiff-by-the-Sea on the south. This watershed includes the cities of Oceanside, Carlsbad, Encinitas, Vista, and Escondido. The watershed is drained by Buena Vista, Agua Hedionda, San Marcos and Escondido creeks and contains four coastal lagoons, including the Buena Vista, Agua Hedionda, Batiquitos and San Elijo lagoons.

# 3.3 Local and Regional Planning Context

The sewer, water, and recycled water service areas consist of land within the jurisdiction of the cities of Carlsbad, Oceanside, Vista, and San Marcos. The planning documents that pertain to the Master Plans include the General Plans for each of these jurisdictions, the California Coastal Act, the North County MHCP, and the Carlsbad HMP. The proposed CIP projects would also traverse land within the VID, VWD, and OMWD. Although the City and CWMD are not within the jurisdiction of these plans, the master plans for these districts are included in this discussion because these are the applicable planning documents for the areas that may be affected by the CIP projects within the proposed Master Plans. These plans and other relevant plans are further described in various environmental issue sections in Chapter 4, Environmental Analysis, of this EIR.

**City of Carlsbad General Plan**

The Carlsbad General Plan contains seven elements, with each element containing maps and figures, policy statements, over-arching goals, specific objectives, implementing programs, and in some instances, development standards. Elements in the General Plan include Land Use, Housing, Open Space and Conservation, Parks and Recreation, Circulation, Public Safety, Noise, and the Arts. The Carlsbad General Plan last underwent a comprehensive update in 1994. In 2008, the City started the process Envision Carlsbad to update the plan again. The current update process includes two phases. The first phase, which focused on a community visioning process, was completed in early 2010. The result of this process was the Community Vision document that will help guide the comprehensive update of the General Plan. This update is expected to be completed by mid-2013.

**City of Oceanside General Plan**

The Oceanside General Plan was most recently updated in 2002. The General Plan serves as a policy guide for determining the appropriate physical development and character of Oceanside. The plan is founded on the community's vision for Oceanside and expresses the community's long-range goals. The following is a summary of the vision statements established for Oceanside as a result of the City's Vision 2020 Project in the late 1990s: 1) well-planned business development with active participation by its business owners; 2) access to telecommunication services; 3) cooperative partnerships with business, community groups, neighborhoods and schools to promote and enhance services while maintaining high aesthetic standards; 4) support for the arts; 5) support for life-long learning through universal access to information; and 6) a community in which people enjoy living, working and playing. Implementation of the General Plan will ensure that development projects are consistent with community goals and adequate urban services are available to meet the needs of new development. The Oceanside General Plan contains ten elements: Land Use, Circulation, Recreational Trails, Housing, Environmental Resource Management, Public Safety, Noise, Community Facilities, Hazardous Waste Management, and Military Reservation.

**City of San Marcos General Plan**

The San Marcos General Plan Land Use Element (1997) is a long-range guide to the development and use of all land within San Marcos' eight community planning areas. As such, it sets forth goals, policies and standards to guide the location, density, and distribution of various land use activities within each of those areas. The San Marcos General Plan Land Use Element sets forth the following city-wide objectives: 1) direct future urban growth to undeveloped or underutilized lands within, or contiguous to, existing developed areas; 2) prevent or reverse the physical decline or deterioration of developments within the city; and 3) protect and enhance natural and cultural resources and promote recreational opportunities. The San Marcos General Plan also includes the following elements: Circulation, Open Space and Conservation, Parks and Recreation, Safety, Noise, and Housing. The General Plan divides the city into eight community planning areas, each with a distinct community character and/or land use pattern. The CMWD water service area includes a portion of the Lake San Marcos Neighborhood, and the CMWD recycled water service area includes a portion of the Business/Industrial District. The San Marcos General Plan is currently in the process of being updated. A Draft General Plan was made available to the public in November 2011.

**City of Vista General Plan**

The Vista General Plan was recently updated and adopted in December 2011. The General Plan serves as a guide for development to achieve the City's vision through the year 2030. The Vista General Plan expresses the community's goals for the future and provides a basis for decision-making for land use actions. The Vista General Plan is an organized set of goals and policies that guide both the distribution of land uses and the way land is developed (or redeveloped) and used. The basic purpose of the Vista General Plan is to define the preferred future vision for the city and to put in place the means of achieving this vision. Generally, the goal that guides the Vista Vision 2030 is a safe, clean, and attractive city with a strong sense of community and a focus on encouraging sustainable development. The Vista General Plan includes the following elements: Land Use and Community Identity; Circulation; Resource Conservation and Sustainability; Healthy Vista; Noise; Public Safety, Facilities, and Services; and Housing.

**California Coastal Act**

The California Coastal Act (CCA) went into effect on January 1, 1977, and granted the California Coastal Commission authority to review and approve plans and projects located within the coastal zone. Under the CCA, cities and counties are encouraged to prepare Local Coastal Programs (LCPs) that guide implementation of conservation, development, and regulatory policies required by the CCA within the local coastal zone. The Carlsbad Zoning Ordinance implements the LCP for the city. Specifically, Chapter 21.201, Coastal Development Permit Procedures, establishes the permit procedures for developments located in the coastal zone. This chapter is based on the local coastal program implementation regulations adopted by the California Coastal Commission. Chapter 21.203, Coastal Resource Protection Overlay Zone, implements the California Coastal Act and is applicable to all properties located in the coastal zone. Chapter 21.203 includes development standards for the coastal resource protection overlay zone and requires site-specific investigations for development in landslide and liquefaction-prone areas.

**Multiple Habitat Conservation Program**

The MHCP is a comprehensive, multiple jurisdictional planning program designed to develop an ecosystem preserve in northwestern San Diego County. Implementation of the regional preserve system is intended to protect viable populations of key sensitive plant and animal species and their

habitats, while accommodating continued economic development and quality of life for residents of the North County region. The MHCP is one of several large multiple jurisdictional habitat planning efforts in San Diego County, each of which constitutes a subregional plan under the NCCP Act of 1991. The MHCP includes seven incorporated cities in northwestern San Diego County: Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. These jurisdictions implement their respective portions of the MHCP through citywide "subarea" plans, which describe the specific implementing mechanisms that each city institutes for the MHCP. The goal of the MHCP is to conserve approximately 19,000 acres of habitat, of which roughly 8,800 acres (46 percent) are already in public ownership and contribute toward the habitat preserve system for the protection of more than 80 rare, threatened or endangered species. The Carlsbad HMP is the only approved and adopted Subarea Plan under the MHCP.

**Carlsbad HMP**

The Carlsbad HMP was approved in 2003 and includes adoption or ordinance regulations in Title 17 of the Carlsbad Municipal Code as a condition of receiving approval from the CCC, an Incidental Take Permit from the USFWS pursuant to Section 10(a)(1)(B) of the FESA, and incidental take authorization from the CDFG pursuant to the CESA and Section 2835 of the CFG Code in 2005. Since its adoption, the Carlsbad HMP has allowed for citywide permits and authorization for the incidental take of sensitive species in conjunction with private development projects, public projects, and other activities which are consistent with the HMP. The Carlsbad HMP has been successful in contributing toward the conservation of local habitats and recovery of regionally sensitive plant and animal species within the city. The HMP designates approximately 6,500 acres of the open space lands in the city for preservation based on its value as habitat for endangered animals and rare, unique or sensitive plant species. The plan identifies how Carlsbad can protect and maintain these lands while still allowing additional public and private development consistent with the General Plan and the Growth Management Plan.

**Vista Irrigation District**

The VID maintains a Potable Water Master Plan that evaluates the existing water distribution system for the VID's water service area and proposes improvements based on forecasted growth within the service area and optimized use of the VID's water facilities. The Potable Water Master Plan identifies water demands, water supply, design criteria, existing distribution system features, hydraulic model development, existing system analysis and recommendations and ultimate system analysis and recommendations. The most recent VID Potable Water Master Plan is from December 2000 (City of Escondido 2012).

**Vallecitos Water District**

VWD maintains a Water, Wastewater and Recycled Water Master Plan that addresses planned growth within its service area. The most current Water, Wastewater and Recycled Water Master Plan is from 2010, with the purpose to provide a reasonable planning tool to meet the demands of planned development and future growth-based development within the VWD service boundary up to year 2030. The Water, Wastewater and Recycled Water Master Plan enables VWD to plan for growth and analyze approved land use and density change data to determine future water, wastewater, and reclaimed water demands. The plan addresses many local and regional issues, including imported water supply cutbacks, requirements for water conservation, local water supply development, service territory growth, and wastewater collection, treatment and disposal capacity. The Water, Wastewater and Recycled Water Master Plan includes a comprehensive CIP that provides VWD with the strategy and

capability for meeting projected water supply, wastewater, and recycled water customer service demands in a timely and reliable manner up to the year 2030 (City of Escondido 2012).

**Olivenhain Municipal Water District**

OMWD adopted the Update of the Potable and Recycled Water Master Plan CIP in March 2011. The update refined the 2006 Master Plan CIP and updated estimates of current and future development, population, and potable water demands. The current CIP outlines the new facilities and the rehabilitation and replacement projects necessary to maintain reliable service to OMWD customers through 2020.

# 3.4 References

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